

From boatanchors@theporch.com Wed May 24 15:52:08 1995
Date: Wed, 24 May 1995 10:52:08 -0500
Message-Id: <199505241549.JAA20604@Freenet.HSC.Colorado.EDU>
From: al511@Freenet.HSC.Colorado.EDU (Robert Neece)
Subject: 75A-4 Tube Shields

My A-4 contains a variety of types of tube shields:
4 IERC shields, 8 "Collins" shields, and 5 ELCO shields.

I believe all of these to have been installed by Collins. All of the shields that bear the Collins name are of a single size, while the ELCO shields are of two sizes: one larger and one smaller than the Collins shields.

One might surmise, therefore, that (depending upon date of manufacture) Collins chose shields on the basis of two criteria: (1) the need that a particular tube might have for a heat dissipating shield, and (2) the stock of shields that the factory had on hand.

By examining the various shields in my A-4, it becomes evident that some of them are more effective in dissipating heat than are others. With their matte black finish, the IERC shields appear to be the most efficient "black-box" radiators of heat. Would any of you advise that all of the non-IERC shields be replaced with IERC shields (except perhaps in the case of the two tubes in the PTO assembly)? If so, where might one obtain the needed range of sizes of IERC shields?

--

73 de Bob, K0KR

From boatanchors@theporch.com Wed May 24 16:47:52 1995
Date: Wed, 24 May 1995 11:47:52 -0500
Message-Id: <9505241643.AA05849@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: Re: 75A-4 Tube Shields

Interesting question.
Could it be that some shields will let the tube dissipate heat BETTER than if the tube were just left "naked"?

The R390A field manual says to remove all tube shields except the RF, VF0, and BF0. I took all the shields off the rectifier and audio sections

to help them run cooler.

All shields in my R390A are the traditional, nice twist-lock aluminum jobs with the single spring in the top.

But my CV-157 has what are probably the heat-dissipating kind -- dull black, many finger-tabs inside to contact the tube along its length -- and a royal pain to get off!

If those black shields are better than a naked tube, I could move some from the '157 to the underside of the R390A. Of course, I would restore all shields to their proper equipment before selling it to another BA lover :-)

Speaking of heat in R390A -- any reason not to remove the Line Audio preamp and output tubes, to save B+ drain and heat? And preserve them as spares for the main audio? At least till I fix up my RTTY TU?
--mike k w9nrd

From boatanchors@theporch.com Wed May 24 17:56:22 1995
Date: Wed, 24 May 1995 12:56:22 -0500
Message-Id: <199505241753.KAA19279@hobbes.UCSC.EDU>
From: haynes@cats.ucsc.edu (Jim Haynes)
Subject: Re: 75A-4 Tube Shields

This is from dim memory, so take accordingly. The nickel-plated shields make the tubes hotter than they would be without the shields. They are a good way to keep the tubes from falling out when the equipment is shipped.

Where shielding isn't important, there were tube retainers made just like the nickel-plated shields but with large windows in the sides - in other words, just enough metal to make them good retainers.

I've also seen the same kind of shields with a black finish, and with a cylinder of corrugated aluminum inside to help conduct heat from the glass to the shield. I don't know if these are better or worse than no shield.

Then I remember an article about the IERC shields, which have a cylinder of stuff with fingers inside, and it was said that these actually run the tube cooler than it would run without a shield.

From boatanchors@theporch.com Wed May 24 23:24:59 1995
Date: Wed, 24 May 1995 18:24:59 -0500

Message-Id: <199505242322.AA17408@relay.interserv.com>
From: spindob@water.ci.seattle.wa.us
Subject: <didn't bother with a subject>

Can someone give the address and Phone number for fair radio. I would like to get their catalog.
73's Brian KA7KUZ

please respond to: spindob@water.ci.seattle.wa.us

From boatanchors@theporch.com Wed May 24 18:27:13 1995
Date: Wed, 24 May 1995 13:27:13 -0500
Message-Id: <m0sEL5h-003BPpC@moon.earthlink.net>
From: jlb@earthlink.net
Subject: Buying metal resistors

Does anyone have the phone number to a good parts house. I called Digikey today to order some 1/2 watt metal film resistors and found out that they don't stock 1/2 watt. I called Mouser and got the same response. I called Allied Radio And Newark 2 weeks ago and am still waiting for their catalogs. I really would like to get started on this restoration project but can't find a parts house that has a selection of 1/2 watt metal film resistors. I would also like some 1 watt metal film resistors but the supply houses tell me that no one makes a 1 watt. Is that true?

Joe AA6WG

From boatanchors@theporch.com Wed May 24 21:07:14 1995
Date: Wed, 24 May 1995 16:07:14 -0500
Message-Id: <199505242111.0AA01628@mozart.bcit.bc.ca>
From: "Colin Schmutter" <Colin.Schmutter@theporch.com>
Subject: Drake TR-4C noise blanker wanted

I am looking for a noise blanker module for a Drake TR-4C.

The part number is 34PNB.

If anyone has one please reply to cschmutter@bcit.bc.ca

Colin

VE7CQH

From boatanchors@theporch.com Thu May 25 02:57:55 1995
Date: Wed, 24 May 1995 21:57:55 -0500
Message-Id: <9505250254.AA00892@pig.die.com>
From: "Dave Emery" <die@pig.die.com>
Subject: Fredrick Electronics/Plantronics

Going from the really ancient to the merely very old by modern standards, does anyone on the list know how and where to find a service manual and schematic for a Plantronics model 1280 HF rtty converter made by Fredrick Electronics ?

Does Fredrick still exist ? Is there someone who carries manuals for their old gear ?

The unit in question is CIA surplus and circa about late 1983 or early 1984 and was almost certainly used on the CIA/State department KKN50 et al HF network in the late 80's. It is configurable as either a dual channel FSK receiver or a single channel FSK receiver and single channel AFSK modulator (I have the modulator/demodulator version). It has provisions for regeneration of async signals and tracking and regeneration of synchronous signals (all implemented in software).

The technology is switched capacitor filters and op amps all controlled by 8 bit micros.

Perhaps this seems more modern than traditional boatanchors, but in a world of DSP based V.34 (and MIL-188) modems it seems like one.

Dave Emery N1PRE
die@die.com

From boatanchors@theporch.com Wed May 24 08:03:29 1995
Date: Wed, 24 May 1995 03:03:29 -0500
Message-Id: <199505240111.SAA01014@bob.indirect.com>
From: dmedley@indirect.com (David J. Medley)
Subject: Hallicrafters S1

I am anxious to locate anyone who has or knows the whereabouts of a Hallicrafters S1 radio or any in the range S1-4. I know it is unlikely that anyone who has such a radio would want to part with it but I would like to get some photographs and hopefully a schematic. Would appreciate any help.

Dave KI6QE/VK2IMJ

From boatanchors@theporch.com Wed May 24 23:50:53 1995
Date: Wed, 24 May 1995 18:50:53 -0500
Message-Id: <199505242351.QAA09434@scn.org>
From: David Barts <davidb@scn.org>
Subject: Re: hammarlund sp-600

> > I can't say for certain which Hammarlund SP600 products did or did not have
> > the gold plated tuning capacitor.
>
> I haven't checked my SP600 JX17 tuning cap, but my HQ140 does have a
> gold plated one. I dunno if it's real gold though.
>
> What was the marketing hype for these anyway?

I don't know, but if you want to make some quick cash, tell the folks
on rec.audio.high-end that they make better tuners and sell them for
\$500 each.

--

David W. Barts (davidb@scn.org)
REAL radios glow in the dark.

From boatanchors@theporch.com Wed May 24 09:08:03 1995
Date: Wed, 24 May 1995 04:08:03 -0500
Message-Id: <Pine.NXT.3.91.950524013347.26008C-100000@nexttues.reed.edu>
From: "Aaron J. Grier" <agrier@reed.edu>
Subject: Heathkit HW101 and introduction

Hi folks.

My name is Aaron J. Grier and I like vintage gear. There's a lot to be
said for the warm glow of tubes and just the way the old radios are put
together and designed. It's true that they have "soul."

I'm 19 years old. I work for the Networking and Technical Services
department of Reed College, and thus work with all kinds of Unix boxes,
along with NeXTs and Macs. I've got a PC of my own. They have souls,
but it's not the same as the old gear. :)

Anyway... I've got a Heathkit HW101, which came to me for free through a

high-school teacher. (I've been working very slowly with this thing, fiddling with it for a couple weeks, and then putting it away somewhere, until I get the next idea of what to do.) It receives, but the volume level seems to be very low. I've got to crank the RF gain and the volume up to the max to get so much as a whisper out of it. It doesn't seem to pick up much, either. (All the tubes are good.) I figured the next thing to check would be the capacitors. I replaced the big ones. The electrolytics. They were the originals, and I figured it'd be easier to just replace both of them with new electrolytics instead of actually hunting down good caps of the same vintage. (I'm more interested in getting it up and running than doing a full restore at this point. I'm looking to make this my base ham station, as I don't have any radios at all right now.) That seemed to make a beneficial difference. More stations came in, but I still had to turn both gains up to the max. My next step will be to hook it up to a good antenna and see what kind of reception I get. (I know some of the bands are kinda dead, and I was running a random-length wire, so this might have something to do with it.)

My problem is this: I don't have any manuals for it. I've been doing all my guesswork and figuring by reading component values off the circuit board and the components themselves. I can't trace circuits that well, and it's possible that the bias voltages could be off in the unit as well. (Does this make that much of a difference?) Soooo... I'm begging, pleading, willing to pay up to \$10 for a full manual (both operating and assembly) photocopied or non for my heavy piece of metal and glass. (Or at least the number for Heath, as maybe they'll be able to get a copy?)

Thanks.

And may that warm glow be with you always. :)

The Finn / VLA

Aaron J. Grier

agrier@reed.edu (other addresses will be forwarded to this one.)

From boatanchors@theporch.com Wed May 24 17:08:26 1995
Date: Wed, 24 May 1995 12:08:26 -0500
Message-Id: <d0aN6Qs00000000000@MHS>
From: RICHARD_HUMPHREY@hp5200.desk.hp.com
Subject: LM-7 mount

My scrounging turned up a mounting base for the LM-7.
Anybody anxious to mount their LM-7?????

Richard
N6NAE

From boatanchors@theporch.com Wed May 24 22:14:11 1995
Date: Wed, 24 May 1995 17:14:11 -0500
Message-Id: <199505242211.PAA01040@igc3.igc.apc.org>
From: "Dick Dillman" <ddillman@igc.apc.org>
Subject: Model 26 TTY Tables Available

Greetings, fellow enthusiasts.

I have two tables for the Model 26 Teletype machine available. Unlike other Teletype machines that could be placed almost anywhere, the table was integral to the operation of the Model 26. It had locating pins that engaged the cover of the machine, recesses for the feet and a slot to feed the paper up from below.

As all true Teletype fans know, the Model 26 achieved fame in the movie "Casablanca" when the French police officer received the notice of two German couriers killed in the desert over a '26. Or was it just me who noticed that?

Anyway, I've got two Model 26 tables that must go. Both are in good condition with original electrical wiring. One has a pull-out door on the bottom containing brackets for the paper roll. The other is smaller and does not have this arrangement.

Either or both are available free to someone who will give them a good home. They're too big to ship easily so a pick-up in San Francisco would be best, although delivery within a reasonable distance might be possible.

Best Regards,

Dick Dillman <ddillman@igc.apc.org>

From boatanchors@theporch.com Wed May 24 23:37:21 1995
Date: Wed, 24 May 1995 18:37:21 -0500
Message-Id: <199505242335.SAA01247@uro.theporch.com>
From: Jack Taylor <n7oo@hereford.ampr.org>
Subject: My shack art

Rather than digress into a "How I spent my summer vacation", my shack has several wall shelves filled with books and books and books on various areas of electronics, old cars, plus a few framed pictures, certificates and other 'objects de art'...

Something I would *REALLY" cherish though is autographed photos of you all, alongside of your favorite vintage boat anchor! Since many of us may be unprepared for such a venture, I'll leave this request open for discussion amongst the group.

Thanks to the originator of this topic, I've dug thru some old photos and uncovered a picture of a BC-339 and BC-340 in their pristine glory. Anyone in this group familiar with these beauties?

Also found a photo of yours truly participating in a field day back in the 50's showing a Harvey Wells Bandmaster transmitter and a couple mystery receivers at the operating position. Took awhile but I discovered what was so terribly wrong with that scene. There were NO MICROPHONES! Just a handkey mounted to an old flat-iron base and my newly acquired surplus vibroplex bug. Ah, the good old days!

73 de Jack

From boatanchors@theporch.com Wed May 24 10:52:09 1995
Date: Wed, 24 May 1995 05:52:09 -0500
Message-Id: <199505241049.AA05068@shore.shore.net>
From: Michael Crestohl <mc@shore.net>
Subject: NEC UltraLite 512K RAMcards...

Hello All:

I have received several replies to the posting re: the 512 K RAM cards.

These cards are essentially a RAMdrive that fit in the slot on the right hand side of the UltraLite. They are the B: drive and you use these like a diskette to hold applications pgms, data, etc, They extend the storage of the machine which is very useful especially if you have a 1MB UltraLite.

The data is backed up by a battery that is supplied with each RAM card. These RAM cards are brand new in the box. You can have a few cards each holding a different program and slide the cards in and out of the machine just like a floppy.

They do NOT expand the memory of 640K or the capacity of the internal silicon hard drive.

Cordially,

Michael Crestohl
mc@shore.net

From boatanchors@theporch.com Wed May 24 21:25:40 1995
Date: Wed, 24 May 1995 16:25:40 -0500
Message-Id: <199505242123.0AA09935@felix.UCSC.EDU>
From: haynes@felix.UCSC.EDU (James H. Haynes)
Subject: R. H. Goddard and tubes?

Last night I was skimming the Collins history book, and it says that RCA and AT&T wouldn't license companies to build transmitters under the De Forest patent. So Collins discovered that the rocket pioneer Robert H. Goddard had made some kind of tube prior to De Forest, and used that to undermine the patent.

Anybody know more about this?

From boatanchors@theporch.com Thu May 25 00:42:03 1995
Date: Wed, 24 May 1995 19:42:03 -0500
Message-Id: <199505250035.TAA14475@zoom.bga.com>
From: Henry van Cleef <vancleef@bga.com>
Subject: Re: R. H. Goddard and tubes?

As James H. Haynes said

>

> Last night I was skimming the Collins history book, and it says that RCA and
> AT&T wouldn't license companies to build transmitters under the De Forest
> patent. So Collins discovered that the rocket pioneer Robert H. Goddard
> had made some kind of tube prior to De Forest, and used that to undermine
> the patent.

>

> Anybody know more about this?

>

Yes, the biographies of Goddard ("This High Man") discuss this. The patents involved are easy to find, and involved an oscillator circuit with a two-control-element tube of some sort. I haven't really studied this, but it's an interesting note that Goddard was a radio pioneer, and that Collins was able to use his work to thwart attempts to control

use of technology. This was ca. 1936.

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed May 24 16:32:06 1995
Date: Wed, 24 May 1995 11:32:06 -0500
Message-Id: <9505241627.AA05754@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: R390 Meters and Signal Reports?

While checking out the great 10m band opening SUn day nite,
I was reminded of a question that's trivial but maybe important
to the ham on the other end of a QS0.
If you're using an R390(A), how do you give a signal report?
The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
by "dB over" like most ham rcvrs.

Since my R390A usually delivers Q5 copy on signals that barely
move the meter, I could just give the meter's dB reading
as "dB over S9" and make the other guy feel good, wiothout stretching
the truth too much.

Or have hams pretty much outgrown S-readings, especially on SSB?

BTW, the meters in my CV-157 SSB converter look a lot like the R390A meters,
so I assume they once glowed in the dark too. --mike k w9nrd

From boatanchors@theporch.com Wed May 24 16:50:55 1995
Date: Wed, 24 May 1995 11:50:55 -0500
Message-Id: <9505241648.AA12575@gvlf4-a>
From: edd@VFL.Paramax.COM
Subject: Re: R390 Meters and Signal Reports?

- > If you're using an R390(A), how do you give a signal report?
- > The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
- > by "dB over" like most ham rcvrs.

Let me take a crack at this:

Each 'S' unit is an increase of 6 dB (Double the signal), so going from 'S1' to 'S9' is (about) 50dB. Just read the first half of the scale in even increments of 'S' units. 0 dB = 'S1', and 50 dB = 'S9'. Read the remainder of the scale in dB above 'S9'. 60 dB is 10 over, etc.

Does this make sense?

Ed doc
K3LPE

From boatanchors@theporch.com Wed May 24 16:53:45 1995
Date: Wed, 24 May 1995 11:53:45 -0500
Message-Id: <199505241651.LAA01886@uro.theporch.com>
From: Jack Taylor <n7oo@hereford.ampr.org>
Subject: Re: R390 Meters and Signal Reports?

At 11:31 AM 5/24/95 -0500, Michael.J.Knudsen@att.com wrote:
>While checking out the great 10m band opening SUNDAY nite,
>I was reminded of a question that's trivial but maybe important
>to the ham on the other end of a QSO.
>If you're using an R390(A), how do you give a signal report?
>The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
>by "dB over" like most ham rcvrs.

The "convention" is to give weak stns 59 and strong stns 20 over 9. An S meter is no longer necessary in today's amateur world.

I would suggest for those who have R-390A's without the meters a suitable replacement would be to back-fill the holes with photo's of loved ones.

73 de Jack

From boatanchors@theporch.com Wed May 24 17:05:20 1995
Date: Wed, 24 May 1995 12:05:20 -0500
Message-Id: <9505241704.AA8188@hqsmtp.ops.3com.com>
From: Joe Reda/HQ/3Com <Joe_Reda@3mail.3com.com>
Subject: Re: R390 Meters and Signal Reports?

>BTW, the meters in my CV-157 SSB converter look a lot like the R390A meters,
>so I assume they once glowed in the dark too. --mike k w9nrd

Yup, I used to have a CV-157 and a National FRR-59A, and in both rigs the meters had a cheery glow in the dark. I tried not to stand too close to either.

\\Joe KC6TXU

From boatanchors@theporch.com Wed May 24 17:12:23 1995
Date: Wed, 24 May 1995 12:12:23 -0500
Message-Id: <Pine.3.89.9505241142.A26331-0100000@indy2>
From: "Roberta J. Barmore" <rbarmore@indynet.indy.net>
Subject: Re: R390 Meters and Signal Reports?

On Wed, 24 May 1995 Michael.J.Knudsen@att.com wrote:

[...]

> If you're using an R390(A), how do you give a signal report?
> The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
> by "dB over" like most ham rcvrs.
> [...]
> Or have hams pretty much outgrown S-readings, especially on SSB?

Ummmmmm....yer Honor? Based on the evidence before the court, I would argue that hams may have *devolved,* and not just one step, but two:

Classically, the markings on an R-meter or S-meter were regarded with the same suspicion with which one reads the speedometer on an early Ford so equipped: there *are* carefully marked calibrations there, but that does not mean they bear any particular relation to the real world.

The S-meter's just a guide! The "Strength" portion of an RS(T) report is less subjective than "Readability," but not by much. If it blows the cans off your ears or everts a speaker cone, it's S9--work down from there, based on how much the radio is turned up, how high above the usual noise the sigs are, etc.

"DB over" is a perfidious invention, probably from the same sort of men who, ahem, compare numbers in other venues as well. (She said blushing)

If the SSB-phone boys have dropped RS reports, all the better; they probably didn't have a real good clue to begin with. Mike, your efforts are noble, well-intentioned and probably most often (IMO!) pearls thrown before swine. Sorry.

73,

--Bobbi

(Only semi-BA related, I just picked up a present for Dean, a collection of Bunny Yeager's glamour/pinup pictures from the 1950s and 60s. A pinup model herself before picking up a camera, Bunny left the biz when they started doing medical textbook pix instead, about 20 years ago. The same store (Half-Price Books) had (still) some Bettie Page calendars, for those of y'all who want a proper OT OM's hamshack cheesecake calendar. --Even the typography is Golden Age Of Tubes-ish. Bettie's my heroine, y'know!) :)

From boatanchors@theporch.com Wed May 24 17:17:46 1995
Date: Wed, 24 May 1995 12:17:46 -0500
Message-Id: <199505241715.LAA24119@Freenet.HSC.Colorado.EDU>
From: al511@freenet.hsc.colorado.edu (Robert Neece)
Subject: Re: R390 Meters and Signal Reports?

Mike Knudsen writes:

>If you're using an R390(A), how do you give a signal report?
>The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
>by "dB over" like most ham rcvrs.

The quantification of an S-unit has not been a consistent thing over the years. Hallicrafters defined S9 as a 50-microvolt signal, with each S unit representing a change of 6 dB. This became an informal "standard" that prevailed for quite some time. Drake defined S units as 5 dB each, possibly because people grew accustomed to thinking in 10 dB steps. This 10-dB mentality related to the expected result of kicking in the kW afterburner (and thus raising the output from, say, 70 watts to 700 watts). It became expected that puttin' on the "shoes" would produce a two-S-unit (or 10 dB) jump on the meter.

This was an arbitrary and capricious thing. It depended not just upon the radiated signal strength of the transmitting station, but in major part also upon the quality of the entire system of the receiving station. Assume two receivers with identical S-meter calibration. A guy with high, stacked yagis attached to RX #1 might see many S units more signal than a guy with a low dipole attached to RX #2. But the actual field strength of the transmitted signal would be identical.

What's a practical answer for an R-390 user? One might say that, at 6 dB per unit, S9 equals 54 dB (relative to whatever was the Collins base of reference) on your R390 scale. At 5 dB per unit, S9 would equal 45 dB. I'd be inclined to compromise and call mid-scale (50 dB?) S9. Thus, a 70 dB reading on the R-390 would be 20 dB over S9. In practice, this might be reasonably close to the way many ham receivers read.

>Or have hams pretty much outgrown S-readings, especially on SSB?

Nah. Real SSB types still love S readings, especially big ones.
:-)

Now I have a mathematical question for the group. Aren't *voltage* dB different from *power* dB? Doesn't a 10 dB change in one imply a 20 dB change in the other? If so, why have people equated microvolt-based S-meter dB with a numerically equal dB change in transmitter power? Field strengths are measured in volts per meter. Transmitter power is measured in watts. The apparent failure to acknowledge the difference, and to say the 6 dB of voltage change on an S meter equals 6 dB of change in transmitter power always troubled me, and I've never seen an effort to reconcile the apparent discrepancy.

--

73 de Bob, K0KR

From boatanchors@theporch.com Wed May 24 18:07:32 1995
Date: Wed, 24 May 1995 13:07:32 -0500
Message-Id: <9505241801.AA06299@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: Re: R390 Meters and Signal Reports?

Yes, I actually did figure that out a month ago, but wondered how others would feel about it. I mean the scheme of 50 dB being S9 and 60 dB is 10-over, etc. I think I'd considered just doubling the dB and dividing by 10 to get S-units, like 30 dB was S6, etc. So great minds think alike, and thanks for the suggestion.

BTW, back in the '60s either QST or Popular Electronics ran an article debunking S-meters, saying they were a load of hogwash, and advocating giving good subjective signal reports based on how it sounded to you -- quiets the rcvr, covers up the QRN, etc.

Funny part of that article was the description of how S-meters

always make you feel good about your receiver:

You have a "Scotch" meter that reads really low, rarely over S5. The signal sounds really great -- so you congratulate yourself on "how good my rcvr makes that weak signal sound, no QRN, wow."

Or you have a generous S-meter, where anything you can copy reads at least +10 dB over. You can barely copy some weak signal, but you say "Wow, look how well my RF and IF stages do with that lousy signal!"

So that's why rcvr makers put S-meters in? --mike k w9nrd

From boatanchors@theporch.com Wed May 24 18:45:47 1995
Date: Wed, 24 May 1995 13:45:47 -0500
Message-Id: <7EDB6D1D0A@s1.xetron.com>
From: "Jack Giehl" <JACKG@s1.xetron.com>
Subject: Re: R390 Meters and Signal Reports?

Dear R-390A Enthusiasts:

I checked the calibration of my R-390A with my HP8640 signal generator. 50 uv gives me 60 db, plus or minus a db or so on all bands, 160 through 10. It actually performs better in this regard than other receivers and import transceivers I have tested. From 40 to 100 db on the R-390A meter, the tracking between generator level and meter reading is remarkable. Crank in 25 db more RF on the generator, and you get 25 db more reading on meter. The linearity does drops off below the 40 db level on the meter.

The meter reading is directly related to the IF gain control pot setting on the IF module.

BTW, has anyone determined where to set the IF gain control? I read the manual and it didn't make sense to me. It is easy to inject RF in, and set the meter to read whatever I want. For now, I guess I'll just leave it at 50uv for a 60 db reading.

Also, speaking of meter adjustment, I put an 6.8 ohm resistor across the two outside terminals of the zeroing pot on the IF module. Makes the zero point more stable and easier to adjust.

Jack

73,

=====
Jack, WB8BFS
jackg@xetron.com Loveland, Ohio (near Cincinnati)
=====

From boatanchors@theporch.com Wed May 24 19:17:34 1995
Date: Wed, 24 May 1995 14:17:34 -0500
Message-Id: <199505241915.0AA15967@zoom.bga.com>
From: Henry van Cleef <vancleef@bga.com>
Subject: Re: R390 Meters and Signal Reports?

S-meters? My Hallicrafters S-36A had an open coil in the original
S-meter, so I replaced it. Now I have the S-meter from hell:

Weak signals read "1" The very strongest signals read "5" Very clear
what these numbers mean, just look at the dial. It says "kilovolts"
Wonder how many other sets see kilovolts for signal strength.

On the RME-45, as I recall, R-9 is specified in the manual as 200
microvolts at the antenna input. It's quite accurate at that level,
and up and down from that level over most of its scale.

Of course, there's the small matter of antenna gain. As I recall, a
good yagi has a gain on the order of 10 db over isotropic.

--

Hank van Cleef vancleef@bga.com vancleef@tmn.com

From boatanchors@theporch.com Wed May 24 19:25:25 1995
Date: Wed, 24 May 1995 14:25:25 -0500
Message-Id: <9505241918.AA06740@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: Re: R390 Meters and Signal Reports?

Jack is right, in that the R390A manuals actually do claim that
the S-meter reads dB relative to a given signal strength.
This assumes that the half-dozen variable-mu RF and IF and mixer tubes
have logarithmic response (er, exponential?) to the AGC voltage.

I'm not surprised that the relation fails below 40 dB, since at some
point (40 dB?) the "delayed" AGC no longer affects the RF amp.

Yes, that IF Gain adjust procedure is weird. I think you inject X uV into the IF directly (swapping a few connectors around to do it) and read the DC voltage developed across the diode load. This procedure bypasses variations in RF/mixer gains (subject to misalignment) and uncalibrated S-meter, but sounds like a pain.

Luckily I have the URM-25 signal generator with calibrated attenuator that the manuals specify, so I could do it their way. However, my URM isn't checked against any standard so who knows? I did align its frequencies last nite -- incredibly accurate machine.

Also must agree about that terribly twitchy S-meter adjustment pot -- takes several tries to get it to stop on the zero point. Be sure to remove that resistor before donating your R390A to a museum :-)

Incidentally, while my R390A produces decent voice copy at maybe 2 dB (barely readable on the meter), the strongest local AM station on my Alpha Delta Sloper antenna hits about 90 dB. Maybe when my next-door neighbor keys up her Ten-Tech on 40m I'll see +100 dB, after scraping the rice boxes off the ceiling :-)

--mike kw9nrd

From boatanchors@theporch.com Wed May 24 23:08:43 1995
Date: Wed, 24 May 1995 18:08:43 -0500
Message-Id: <9505241802.aa20426@jackatak.theporch.com>
From: Fire Bottle archive handler <firebot1@jackatak.theporch.com>
Subject: R390 Meters and Signal Reports?

Mike and the Gang-

> While checking out the great 10m band opening SUn-day nite
I must have been asleep (oh, no! not at the wheel! -- I only operate mobile ;^)

> I was reminded of a question that's trivial but maybe important
> to the ham on the other end of a QSO.
> If you're using an R390(A), how do you give a signal report?
> The radioactive meter reads from 0 to 100 dB, not S1-S9 followed
> by "dB over" like most ham rcvrs.

Hmmm. I once calibrated my R390-A meter with a Hallicrafters SX-115 and a signal generator such that half-scale deflection on the R390-A and S-9 took 50 uVolts at 14.000 Mcs...

>From then on, I could give a reading in dB *above* and *below* S9, and it really impressed the daylights out of those who asked! Plus, it made it sound like I had a calibrated instrument, while they *ONLY*

had an S-meter... that measures "S"???

> Since my R390A usually delivers Q5 copy on signals that barely
> move the meter, I could just give the meter's dB reading
> as "dB over S9" and make the other guy feel good, without stretching
> the truth too much.

Not really. You have clearly understood how to adjust the radio such that signals need NOT bang the needle just to be heard. I often back the RF gain down to lower the noise floor and make the faint signal jump out at me... then again, I am an Old Fart and a Dumpster Diver, and damned proud of BOTH!!! ;^)

> Or have hams pretty much outgrown S-readings, especially on SSB?
Bite your tongue! Out grow S-meters? NEVER!!! Listen around on 75M (or any band for that matter) and listen to the chatter... every day I hear more than one idiot say: "I always give the DX station a 5x9 report. If I don't, he might not return my card." Well, I'm here to tell ya, that is a crock! Most *real* Hams (tm) *want* to know how the antenna/rig is doing... and are grateful for *honest* and intelligent reports... I sure am...

--

73

Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657/#1789 -- both all mobile! ;^)
- - - BoatAnchor Mailing List Archiver/Owner - - -
firebotl@jackatak.theporch.com - "Plus ca change, plus c'est la meme chose"

From boatanchors@theporch.com Wed May 24 23:26:36 1995

Date: Wed, 24 May 1995 18:26:36 -0500

Message-Id: <9505241816.aa20685@jackatak.theporch.com>

From: Fire Bottle archive handler <firebotl@jackatak.theporch.com>

Subject: Re: R390 Meters and Signal Reports?

> > If you're using an R390(A), how do you give a signal report?
> Let me take a crack at this:
OK... works for me... ;^)

> Each 'S' unit is an increase of 6 dB (Double the signal)
3dB is double (power) versus 6dB to count as double (voltage) for those who count, and signal strength is a function of *voltage* not power...

For those in the transmitting core, however, it take FOUR times the *power* to impress a signal of twice the voltage at the receiving end... hence the "confusion" about "how many dB!" ;^)

> 'S1' to 'S9' is (about) 50dB.

Yep.

> remainder of the scale in dB above 'S9'. 60 dB is 10 over, etc.

> Does this make sense?

Sure does...

--

73

Jack, W4PPT/Mobile (75M SSB 2-letter WAS #1657/#1789 -- both all mobile! ;^)

- - - BoatAnchor Mailing List Archiver/Owner - - -

firebot1@jackatak.theporch.com - "Plus ca change, plus c'est la meme chose"

From boatanchors@theporch.com Wed May 24 18:35:07 1995

Date: Wed, 24 May 1995 13:35:07 -0500

Message-Id: <m0sELFC-0010NRC@spider.lloyd.com>

From: jml@spider.lloyd.com (Jim Lockwood)

Subject: R390 S-meter readings

At 11:31 AM 5/24/95 -0500, Michael.J.Knudsen@att.com wrote:

>

>If you're using an R390(A), how do you give a signal report?

>The radioactive meter reads from 0 to 100 dB, not S1-S9 followed

>by "dB over" like most ham rcvrs.

Well, let's think about this for a minute...

There is no "S" scale, so the meter is only capable of readings of S=0.

So what happens when a signal comes in? The meter reads upscale indicating some dB level above the resting needle position. You could, therefore, with a nearly straight face, announce to a station, especially rare DX, that she/he was coming in 100dB over S0.

73,

Jim - km6nk

From boatanchors@theporch.com Wed May 24 19:30:03 1995

Date: Wed, 24 May 1995 14:30:03 -0500

Message-Id: <199505241930.0AA24888@wrdis01.robins.af.mil>

From: lakeith@wrdis01.robins.af.mil (Larry Keith)

Subject: Re: R390 S-meter readings

In your message of 24 May 1995 at 1348 EDT, you write:

> There is no "S" scale, so the meter is only capable of readings of S=0.

>

> So what happens when a signal comes in? The meter reads upscale indicating
> some dB level above the resting needle position. You could, therefore, with
> a nearly straight face, announce to a station, especially rare DX, that
> she/he was coming in 100dB over S0.

Well, we all know what the signal reports mean:

S7 = "I can't hear you."

S9 = "I can hear you.."

10 over = "Not much QRM."

15 over = "And, the noise level has dropped."

20 over = "And, I finally tuned to your frequency.."

30 over = "I want/need a QSL from you"

40 over = "We must have chased everyone away from this frequency.."

50 over = "I turned the RF gain down to make the meter read that.."

anything over that = "I don't know how to give signal reports,
anyway.."

73,

Larry, KQ4BY

From boatanchors@theporch.com Wed May 24 19:37:28 1995

Date: Wed, 24 May 1995 14:37:28 -0500

Message-Id: <9505241926.AA06791@ihurry.ih.att.com>

From: Michael.J.Knudsen@att.com

Subject: R390A Quality

Jack's posting about how the R390A maintains the same end-end gain
over the whole frequency range (unlike dirty sand riceboxes)
is yet another indication of Mil-Std quality.

It reminds me that the manual even warns that if the background noise level
on some band(s) is different, you have a front-end problem (probably in
that #\$\$%^& RF bandswitch system).

Better yet, the manual mentions that you can detect misalignment of the slug racks by checking whether the strenght of a signal (watch that S-meter!) improves when you rotate the MC bandswitch knob slightly off detent to either side.

I'm impressed with this manual. It sounds like it was written by someone who actually sat down and USED the rcvr for a few days! Or who listened for the first few years to radio operators and the techs who repaired the sets. Great way to run a business. 73, mike k w9nrd

From boatanchors@theporch.com Wed May 24 16:02:56 1995
Date: Wed, 24 May 1995 11:02:56 -0500
Message-Id: <9505241557.AA05539@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: re: R390A Self-Illuminating Meters?

OK. Well, it sounds like the good old Geiger counters detected gammas, and as such would still be right thing to check out your R390 meters to see if anything beyond Betas is coming thru the meter window at you.

Hadn't heard about those flame detectors. Probably impossible to get H2 refill cartridges for them today. Also not so good for fumbling around in a bomb-damaged building with gas leaks :-)

A less stressful use for those old Geigers was prospecting for uranium.

Sounds like tritium gas is much like radon, tho hard to see how it could be heavier than air (should have molecular weight of 6).
Since many of us BA lovers live in our basements, it's probably more important to get our basements radon checked than to worry about the meters.
--mike k w9nrd

From boatanchors@theporch.com Thu May 25 01:38:04 1995
Date: Wed, 24 May 1995 20:38:04 -0500
Message-Id: <77518.ddillman@igc.apc.org>
From: "Dick Dillman" <ddillman@igc.apc.org>
Subject: Rack Mount FM Available

I have a rack mount, tube type, FM tranciever that must go.

This is a Comco (Communications Company) unit in excellent shape with all tubes (5894 in final) consisting of two rack mount units. The control unit

is 7" high and consists of a power supply, speaker, microphone connector, volume, squelch and channel selector (2 frequencies), transmit and standby lights, local/remote, intercom and on/off switches.

The RF unit is 12" high and contains the transmitter/receiver chassis. A center panel may be opened via four 1/4 turn fasteners revealing the chassis which may be removed as a unit while the support structure remains in the rack. The last frequency of use is unknown but the tank coil is about 1" x 2 turns. The two units are connected by a cable attached to the control unit.

The Comco model is 682-TR.

Both units are finished in light gray paint with the Comco logo of the globe with "Comco" written across and two satellite orbits around it on the control unit.

I always thought this was a particularly attractive unit - to those with BA tastes as any rate - and planned to move it to ham frequencies. Now I need the space for incoming BA receivers.

This radio is available free to anyone who will give it a good home. It should be UPS shippable FOB San Francisco or I'll believe anywhere within a reasonable distance.

Best Regards,

Dick Dillman <ddillman@igc.apc.org>

From boatanchors@theporch.com Wed May 24 19:28:11 1995
Date: Wed, 24 May 1995 14:28:11 -0500
Message-Id: <199505241925.AA067933533@hp.com>
From: Scott Turner <scott@hpislst.lvld.hp.com>
Subject: Radio Artwork

On another topic, Bobbi wrote:

> (Only semi-BA related, I just picked up a present for Dean, a
> collection of Bunny Yeager's glamour/pinup pictures from the 1950s and
> 60s. A pinup model herself before picking up a camera, Bunny left the biz
> when they started doing medical textbook pix instead, about 20 years ago.
> The same store (Half-Price Books) had (still) some Bettie Page calendars,
> for those of y'all who want a proper OT OM's hamshack cheesecake calendar.
> --Even the typography is Golden Age Of Tubes-ish. Bettie's my heroine,
> y'know!) :)

Which reminded me of something I've been meaning to ask the list folk. I'm finally about to move out of the back of the family room (which I'm badly overflowing) and into a real dedicated radio room. The room will be fairly nice, and I'd like to get some tasteful stuff to put on the walls. My wife's idea was to see if we could find some old B&W photos or ads or whatever we could get our hands on of some nice boatanchors.

I like that idea.

Anybody have any ideas about sources for such material?

PS I use the term "radio room" because I find I dislike the terms 'ham shack' and 'shack'. It's a room in the house, not a shack doggone it. I do have a friend who has a real live shack (an old pumphouse behind his farmhouse) but he's the only person I've known who really has one. Am I the only one with this strange 'shack' phobia?

--

Regards,

Scott Turner KG0MR scott@lvld.hp.com -or- scottt@csn.net

From boatanchors@theporch.com Wed May 24 22:41:41 1995
Date: Wed, 24 May 1995 17:41:41 -0500
Message-Id: <F50H3748.F50H3803@mail.admin.wisc.edu>
From: TOM.A.ADAMS@mail.admin.wisc.edu
Subject: Re. Shack "Art"

to: boatanchors@theporch.com

Greetings, Troops!

Well, the descriptions of stuff hanging on shack walls so far reminds me of the old saying "I don't know about art, but I know what I like"!

In the K9TA shack, we have the following:

- A worn out 1896 Krag cavalry carbine (declared surplus after the Spanish American War), inside of a wooden box with a glass cover marked "IN CASE OF FCC INSPECTION OR REVENUE AGENTS BREAK GLASS". Included is a 5 round clip of dummy ammunition.
- A wall mirror produced by a whiskey distributor to commemorate the

Oshkosh Fly-In (I forget what year), and featuring a P-51D Mustang.

- A blow-up of a 35MM picture taken of my TV screen. The TV image is a freeze-frame taken from the film "The Lost Squadron", starring Erich Von Stroheim (RKO Pictures, 1931). It shows a pilot in an open cockpit plane, complete with goggles, leather helmet, and scarf. He is grinning at the camera, and his gloved hand is giving a one finger salute. Somehow, they sneaked this one by the Hayes Office censors.
- An autographed photo of Sally Rand, with her Flashing Fans (for the O.T.s in the group. Sally was a major scandal at the Chicago World's Fair in 1933). Sally is naked, and we get a full stern view. Not bad.
- My (now defunct, thanks to Ron Reagan) 1st Class Radiotelephone license, 2nd Class Radiotelegraph license, and an old diploma format Amateur Extra license.

Ah well... To each his/her own, I guess...

Tom, K9TA

From boatanchors@theporch.com Thu May 25 01:55:44 1995
Date: Wed, 24 May 1995 20:55:44 -0500
Message-Id: <F50K5144.F50K5155@mail.admin.wisc.edu>
From: TOM.A.ADAMS@mail.admin.wisc.edu
Subject: Re. Wirewound dummy loads

to: boatanchors@theporch.com

Greetings, Troops!

Awhile ago I put together an HF dummy load using wirewound resistors. Lest you think ol' Mr. T. has finally lost it, lemme explain a bit.

There ARE such things as noninductive wirewound resistors. Sprague used to make a such a version of thier KOOLOHM series. While I wouldn't care to call 'em nonreactive above 30 MHz, they WILL pass muster below. The noninductive versions are marked prominently with the letters N I on the body.

As I understand it, the maker used two stunts to make these things noninductive.

First, the resistor body is wrapped half it's length in one direction, and half in the OPPOSITE direction, thus cancelling the winding inductance. The

total resistance of this winding is twice the desired final value.

Second, the resistor is coaxial. A second body, wound in the same manner as the first, but in the OPPOSITE sense, is slid into the first body, also helping to cancel winding inductance. Once they are so assembled, the elements are connected internally in parallel, resulting in the target resistance.

I found a bunch of these things (36, to be exact) at Fair Radio a few months back, all rated 50 ohms, 50 watts. They were unused NOS.

I assembled them on 2 sheets of phenolic, as 6 strings of 6 resistors each, and tied the strings in parallel, giving 50 ohms @ 1800 watts. A 6 ampere RF ammeter tied in series with this element (theoretically) reads full scale at the load's maximum rated dissipation; I say "theoretically" because I haven't put that kind of power to the load (yet...).

The resulting "Dan Quayle Memorial Dummy Load (Model I)" has a few drawbacks that necessitate a redesign effort.

For one thing, the beast heats the phenolic board enough to cause phenolformaldehyde fumes to vent out of the cooling blower opening (formaldehyde is a known carcinogen, as is, I believe, phenol). The effect is pretty bad at less than 1/3 of the maximum rated power, so I'd better get a handle on the problem RIGHT NOW!

For another, I'm getting some quirky impedance jumps at some frequencies that I attribute to lead inductance.

The redesign calls for total elimination of both phenolic board and leads.

Using the flanges from discarded 1" videotape reels (aluminum sheet disks), I want to make six "sandwiches" of six resistors in parallel, and stack 'em six high. Power is applied to the top and bottom of the stack. I figure that an aluminum disk is gonna show a hell of a lot less reactance at HF than a bunch of interconnecting leads would.

In any event, I just wanted to make the point that a wirewound dummy load isn't as crazy as it first sounds.

73's,

Tom, K9TA

From boatanchors@theporch.com Wed May 24 18:48:35 1995
Date: Wed, 24 May 1995 13:48:35 -0500
Message-Id: <199505241846.TAA03412@aith.chemeng.ed.ac.uk>

From: Jack Ponton <jwp@chemeng.ed.ac.uk>
Subject: S-meters and TCS lives again!

> Or have hams pretty much outgrown S-readings, especially on SSB?

S-reports are highly 'context sensitive'. Hence:

The reply to the DX station: 'You are 5 and 9.
Please repeat your callsign slowly many, many times...'

QRP operators are familiar with the 'second report' from the QRO station who gives you 5/9 on the first over, then after hearing what power you're running: 'Sorry, your signal's really dropped, about a 5/2 and I'm having difficulty copying..'

Seriously, I just got my first BA up and running. My 1945 TCS-12 RX lives again after more than 30 years in the attic! OK, you people on the list do this all the time, but it's my first time so I got a real kick out of it... Many thanks to all those who gave me advice, assistance, circuits etc.

I followed the discussion of carbon composition resistors. I assume that that's what the TCS uses (OK, I said I was new to this). I checked some of the values and noticed that many of them seemed to have drifted high, sometimes to twice the marked value. Is this typical? The view seems to be that I should replace them with carbon film. I will do this only where values are more than about 50% out. Some of the original resistors are gigantic, about 1.5-2" long, and must be rated well over the power they could ever see. Was there some reason for this, or can I replace with 1/2 or 1 watt?

Thanks and 73,

Jack, gm0rwu

From boatanchors@theporch.com Wed May 24 21:11:55 1995
Date: Wed, 24 May 1995 16:11:55 -0500
Message-Id: <01HQVYAKRYB699E7V2@RANDB.PPRD.Abbott.Com>
From: KANAMAA%AMGATE%MATRXA@randb.abbott.com
Subject: Shack Art

From: Kana, Michael (D9CY)
Date: Wed, May 24, 1995 4:17 PM
Subject: Shack Art

To: bigboats
Howdy All

Well, If and when I decorate the shack, I figure the following would do:
A callsign map with alot of places that don't exist anymore (i.e. Belgium Congo)
Some pictures with the old RCA logo on it or with Kipper.
A pinup of a KW1
A Bettie Page pinup.
Some B/W photos of a Ford Trimotor, Graf Zeppelin, Chicago Worlds Fair, etc...
Right now, the only painting I have to put up is a litho of a B25 flying low over the surf. It also has a piece of aluminum removed from one of the original Tokyo Raiders. A gift from my loving YL.
Thats about as nostalgic as I can get since Im only 31 and most of my stuff is older than me!

73's de AA9IL
Mike Kana

From boatanchors@theporch.com Wed May 24 12:22:45 1995
Date: Wed, 24 May 1995 07:22:45 -0500
Message-Id: <199505241220.AA09250@shore.shore.net>
From: Michael Crestohl <mc@shore.net>
Subject: Sorry for error in recent posting...

Hello All!

I recently posted a message to the UltraLite List but since I am just back from a month of intense hamfesting and boat anchor knob twiddling and poking I accidentally posted it to the Boatanchors List. Must have Boatanchors on the brain!

I am selling some computer (ugh!) junk and I assure you all that any and all proceeds will be used to buy another boatanchor or two or three. The NEC UltraLite is a bit of a computer boatanchor - and there's a mailing list of its fans and followers.

Again, apologies to one and all for this serious breech of Boatanchors-List protocol.

Asbestos suit has been donned!

Michael Crestohl KH6KD/W1

mc@shore.net

From boatanchors@theporch.com Wed May 24 13:09:18 1995
Date: Wed, 24 May 1995 08:09:18 -0500
Message-Id: <9505241306.AA20263@speckle.ncsl.nist.gov>
From: morgan@speckle.ncsl.nist.gov (Roy Morgan)
Subject: Re: Sorry for error in recent posting...

Mike Crestohl said:

>Hello All!
>
>I recently posted a message to the UltraLite List

INSULT ADDED TO INJURY! Not only is the above quoted term not related to boatanchors, it's not even what it seems to be. Not an airplane. Verily, an ultralight is an aircraft. An abomination, to be sure, but an airplane. It flies. It's fun. It's deadly dangerous, but it's fun. This thing to which you refer (I can't use the word again) is nothing but trouble. Sucks your time. Waste's your energy. Does nothing for your character (unlike the true ultralight aircraft, which builds character.)

>I am selling some computer (ugh!) junk and I assure you all that any and
>all proceeds will be used to buy another boatanchor or two or three.

Well, all right. That's partial pennance, but only partial. I suggest you ponder your sins, repeat the Q-code list 10 times, spend at least 3 hours every evening for a week in front of the glowing firebottle gods, and if possible send supplications skyward often with a straight BRASS key and medium to large fire bottles.

Then go in peace.

Isn't there a 12 step program for digit-junkies? Perhaps I should start one. Ok, I'll do it ... right after I read another news group.

-- Roy --

Roy Morgan / Tech A-266 / NIST / Gaithersburg MD 20899
(National Institute of Standards and Technology, formerly NBS)
301-975-3254 Fax: 301-948-6213 Internet: morgan@speckle.ncsl.nist.gov

From boatanchors@theporch.com Wed May 24 05:44:42 1995
Date: Wed, 24 May 1995 00:44:42 -0500
Message-Id: <199505240541.WAA00643@netcom14.netcom.com>
From: jlyle@netcom.com (Jim Lyle)
Subject: Troubleshooting Help (Epilogue)

Thanks for all the help I received from several of you, fixing my
Magnavox AM/FM/SW console radio.

It had a problem with BAD parasitic oscillation. After much time and
trouble, I decided to rewire the screen voltage layout, which I believe
had too much wire and not nearly enough bypassing. This NEARLY eliminated
the problem (I put in screen stopper resistors too, btw).

This radio has BIG air core coils mounted pretty close to each other, and
I believe the real problem was/is coupling between these. The people at
Magnavox included small loops of wire (about 2 inches long) in series with
each of these coils. I discovered that by changing the shape of these
wires, I was able to vary and (ultimately) eliminate the parasitic oscil-
lations altogether. I can only surmise that this little coil served to
tweak the inductance of the other coils JUST ENOUGH that they no longer
coupled enough to cause a problem.

Does this make sense? At any rate, it's WORKING now, so I'm just going
to give it a quick alignment (it's already pretty close) and then sit
back to LISTEN to the thing.

--

Jim Lyle jlyle@netcom.COM
Troubador Technologies
Consulting Services
(408) 247-4199

From boatanchors@theporch.com Wed May 24 15:10:08 1995
Date: Wed, 24 May 1995 10:10:08 -0500
Message-Id: <Pine.3.89.9505230952.D3035-01000000@mm1001.theporch.com>
From: Kevin J Pease <kevin@mm1001.theporch.com>
Subject: Re: Troubleshooting Help (Epilogue)

The little loops of wire sound like neutralization devices.

Kevin J Pease
WB0JZG Mt Juliet, TN.

mm1001.theporch.com

From boatanchors@theporch.com Wed May 24 16:21:14 1995
Date: Wed, 24 May 1995 11:21:14 -0500
Message-Id: <9505241612.AA05656@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: Re: Troubleshooting Help (Epilogue)

I suspect those extra loops of wire in series with the coils may be link couplers, and you tweak them until their mutual coupling just cancels out the unwanted coupling between the big coils.

Not an especially good design for mass production, but for this high-end set maybe Magnavox was willing to pay workers to tweak each set that needed it. --mike k w9nrd

From boatanchors@theporch.com Wed May 24 20:39:26 1995
Date: Wed, 24 May 1995 15:39:26 -0500
Message-Id: <"d0aNl3/0000000000*"@MHS>
From: RICHARD_HUMPHREY@hp5200.desk.hp.com
Subject: RE: Tube shields

Item Subject: RE: Tube Shields

According to an article in ER, the IERC shields cool the tube by conducting heat into the chassis where it can spread out and dissipate. The IERCs don't really radiate much into space, although the flat black finish is better than shiny nickle or steel. Anyway, they depend on having the twist-lock base which is riveted to the chassis to work correctly. Just slipping one over a tube which doesn't have a shield base won't work very well.

The trouble with the shiny steel shields are: steel is a poor heat conductor so the heat builds up; they reflect heat back into the tube raising its temperature. Bad news.

I also have an article in a '50s vintage magazine detailing tests done on tube shields. The shiny steel shields are a disaster, raising the internal tube element temperature to very hazardous levels. Some shields reduced tube life to 10% of normal.

After this discovery, the R-390A manual said remove and toss the covers and tube shields. The IERC shields were later developed to cure this bug.

The IERC shields run the tube cooler than no shield at all. Tube life with the IERCs went way up as heat related failures disappeared.

So I've pulled all the steel shields out of my gear, tossed them into a box somewhere, and put in the IERCs. Keep those tubes cool. And, IMHO, the IERCs look much better!

I can testify that all the tubes in my R-390A, except the 26Z5s, run only warm to the touch with the IERC shields. Very nice! The 26Z5s dissipate so much power that they still get toasty, although the heat sinking of the IERCs keeps the aluminum chassis warm and the tubes from really glowing. I can imagine that with shiny steel shields on those 26Z5s, they would fail left and right.

Richard
N6NAE

From boatanchors@theporch.com Wed May 24 20:56:06 1995
Date: Wed, 24 May 1995 15:56:06 -0500
Message-Id: <Chameleon.4.00.4.950524155337.grant@nq5t>
From: gyoungma@gtetel.com
Subject: RE: Tube shields

>
>So I've pulled all the steel shields out of my gear, tossed them
>into a box somewhere, and put in the IERCs. Keep those tubes
>cool. And, IMHO, the IERCs look much better!
>

Where do I go to get IREC shields? Do you (or anyone) have a cross ref for the proper shield type for various miniature tubes using the bayonet style tube shield base?

Thanks .. Grant/NQ5T

From boatanchors@theporch.com Wed May 24 21:20:38 1995

Date: Wed, 24 May 1995 16:20:38 -0500
Message-Id: <9505242112.AA07340@ihurry.ih.att.com>
From: Michael.J.Knudsen@att.com
Subject: RE: Tube shields

Thanks a bunch to Richard, N6NAE for his excellent posting on the IERC tube shields. These must be the sng-fitting (snug-) items that came with my CV-157. I now have about 40 of these gadgets, thanks to that ship anchor. I've removed most of them from the 157 so as to see what tubes are lit and get better vision and accessibility around the chassis.

But thanks to Richard's posting I'll put most of them back when I get the beast playing. Except for a few that I steal for the undersides of the R390A.

In addition to a near-death-grip on the two dimples of the socket base, those IERC shield bottom fingers do hug tightly all around the base, so I can see how they dump heat into the chassis.

Now we will all keep a lookout for totally junk BA gear that's loaded with these shields. Wonder if Fair Radio has a shed full of them somewhere?

Could conventional steel shields be improved by (a) painting them dull black inside, so they don't reflect as much heat back, and (b) painting them dull black on the outside?

Of course, firebottle gear looks better with no shields at all :-)
--mike k w9nrd

From boatanchors@theporch.com Wed May 24 21:22:03 1995
Date: Wed, 24 May 1995 16:22:03 -0500
Message-Id: <9505242118.AA07206@kahuna.math.hawaii.edu>
From: jeffrey@math.hawaii.edu (Jeffrey Herman)
Subject: Re: Tube Shields

Might the purpose of those tube shields be to prevent stray RF from entering the tube and causing problems? A good construction practice is to shield the various stages from one another but the firebottles are sitting with their elements exposed to all the surrounding stages.

Jeff NH6IL

From boatanchors@theporch.com Wed May 24 23:01:16 1995

Date: Wed, 24 May 1995 18:01:16 -0500

Message-Id: <9505242245.AA20362@uvs1.orl.mmc.com>

From: padgett@tccslr.dnet.mmc.com (A. Padgett Peterson, P.E. Information Security)

Subject: RE: Tube shields

>Could conventional steel shields be improved by (a) painting them dull
>black inside, so they don't reflect as much heat back, and (b) painting
>them dull black on the outside?

No, what is really needed is a series of horizontal aluminum (beryllium is better but aluminum will work) strips .006 thick x .060 high and spaced radially in 24 degree increments (15 total) about the glass envelope. Use thermal grease between the metal and glass. Secure with three .024 spring wire hoops at top, middle, and bottom making sure that no contact is made with tube base or chassis. Next, for vertical mounted tubes attach a convection turbine .100 above the tube and suspended on carburundum or zirconium pivots. Turbine diameter should be exactly twice the diameter of the tube. Finally there should be a shroud over the turbine extending downward for at least 1/3 and not more than 1/2 the height of the tube.

This arrangement will maximize convective air flow across the heat exchanger for a maximum of passive heat transfer. Small gaily painted Japanese parasols may be fitted to the turbine for a decorative effect.

Warmly,
Padgett

From boatanchors@theporch.com Wed May 24 23:03:26 1995

Date: Wed, 24 May 1995 18:03:26 -0500

Message-Id: <d0aNvn1000000000000@MHS>

From: RICHARD_HUMPHREY@hp5200.desk.hp.com

Subject: RE: Tube shields

Mike sez:

>. . . These must be the sng-fitting (snug-)
>items that came with my CV-157.

The genuine item says IERC on it somewhere. They should fit snugly. A gentle rocking motion usually convinces them to let go. The ones that haven't moved in ages sometimes require a circular twist of a few degrees to unlock the tabs from the dimples, then you can drag it out. If the tube sticks in the shield, I push it out with the eraser end of a pencil. Haven't broken one yet. . . .

>Now we will all keep a lookout for totally junk BA gear that's loaded

>with these shields. Wonder if Fair Radio has a shed. . .

They're in the Fair catalog, but I've never ordered any. I've found what I need at swap meets.

I've also heard that IERC is still in business in So. Cal, but I don't know if these are still in their catalog. That would be amazing.

There were only a few sizes made, to fit these tube sizes: short 7-pin (6AU6), tall 7-pin (6AQ5), mini 7-pin (6AK5), short 9-pin (12AU7), tall 9-pin (12BY7 or 3TF7). There are probably others, but these are the most common.

>Could conventional steel shields be improved by (a) painting them dull
>black inside, so they don't reflect as much heat back, and (b) painting
>them dull black on the outside?

I've wondered about that myself. Paint sure couldn't make them any worse! I have my doubts about black paint helping a lot. Part of the problem is the steel has a high thermal resistance, so heat from the tube isn't conducted away very well.

I think the IERCs are probably black-anodised aluminum to solve that problem.

The other interesting thing is that the glass used on receiving tubes is fairly opaque to infrared heat. It can't get out very well, so the glass develops hot spots. That's why the IERCs have the fingers in them. They soak up the hot spots and even things out.

>Of course, firebottle gear looks better with no shields at all :-)
Tubes should be seen as well as heard.

Richard
N6NAE

From boatanchors@theporch.com Wed May 24 23:29:23 1995
Date: Wed, 24 May 1995 18:29:23 -0500
Message-Id: <F50I2523.F50I2534@mail.admin.wisc.edu>
From: TOM.A.ADAMS@mail.admin.wisc.edu
Subject: Re: Tube Shields

to: boatanchors@theporch.com

Greetings, Troops.

Re. the subject of blackening tube shields to improve heat radiation:

Some years ago I seem to remember something about that in the "Hints and Kinks" column of QST. The recommendation there was to take the shiny shields and boil 'em in salt water. I tried it, and with the shields I had it didn't work very well; they lost thier shine and got dull, but that was it.

I found a much better method. Simply go to your local dealer in guns and other implements of destruction, and ask for a bottle of blueing touch-up solution. They sell it for touching up minor scratches in the blued finish of firearms. Let the shields soak overnight, and I guarantee you they'll be good and black. For even better results, sand or sandblast the shields first to get a dull finish.

CAUTION!!!

READ THE INSTRUCTIONS ON THE BLUEING SOLUTION PACKAGE CAREFULLY, AND KEEP IT OUT OF THE REACH OF CHILDREN!!!

Blueing solution usually contains selenium, and is POISONOUS! Be sure to wash the shields VERY CAREFULLY after thier treatment.

73's,

Tom, K9TA

From boatanchors@theporch.com Wed May 24 17:58:12 1995
Date: Wed, 24 May 1995 12:58:12 -0500
Message-Id: <m0sEKd7-0018KRC@aupair.cs.athabascau.ca>
From: tech@cs.athabascau.ca (Richard Loken)
Subject: wanted Heathkit GR54 manual

Anybody got one of these to copy for me? Heathquit wants US\$35.00 and \$4.95 for shipping... the greedy little %\$#@%^&*.

My heart would be broken if I had to send them \$40.00 plus exchange.

Richard Loken VE6BSV, Systems Programmer - VMS : "...underneath those
Athabasca University : tuques we wear, our heads
Athabasca, Alberta Canada : are naked!"
** tech@cs.athabascau.ca ** : - Aurthor Black